

Experimental Biology and
Medicine Institute

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Dear Severo:

It seems like a long time since I have written you, but very little has happened to be worth writing about. First, we want to thank you for returning the Senate Zwischenferment which was very embarrassing but helpful to us. Since that time, Bernie has found extraction conditions for the Anheuser-Busch yeast which give him adequate Zwischenferment activity and have a useably low cytochrome reductase blank. I hope you have received the Zwischenferment we sent you in "exchange" and please tell us when you run low because we have a good deal of this material and are making some all the time. Also, if you should need some of "the" old Senate sample, we have almost 100 milligrams of it and could spare most of it.

I have been spending all my time in the very painful operation of going back over the DPN synthesis work to repeat experiments and fill in details. It has been unusually trying in places but everything seems to have worked out rather nicely. It seems that different batches of the same yeast require different lebewsaft conditions for optimal yields of this activity. The ATP assay also proved annoying until we found that the hexokinase had to be free of "old yellow enzyme activity" and Zwischenferment free of phosphogluconate dehydrogenase activity. We also tried to get inorganic pyrophosphatase free of other phosphatase activity from several sources, including yeast and potato, but gave it up. The FAD-synthesizing enzyme appears to be a good deal weaker than DPN-synthesizing activity and the purification problem more difficult. The preparations are still too crude to permit study of mechanism.

Your biotin data are really exciting. It goes without saying that I would be delighted to cooperate in any way possible. Do

you recall that when you were with us last September you suggested at that time that I look for an effect of biotin on this DPH enzyme. I tried folic and biotin with negative results, but such preparations might be worth analyzing for their biotin content.

Our little one is getting to be quite a fatty and a very well behaved youngster, but it still keeps us hopping to keep up with both of them. No news about Ohlmeyer since I last wrote you. Our fondest regards to you and Carmen.

Sincerely,

Arthur Kornberg.

AK:T